

401 KAR 59:210. New fabric, vinyl and paper surface coating operations.

NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
Department for Environmental Protection
Division for Air Quality

Relates to: KAR Chapter 224.20-100, 224.20-110, 224.20-120

Pursuant to: KAR 13.082, 224.20-100

Necessity and Function: KAR 224.20-100 requires the Department for Natural Resources and Environmental Protection to prescribe regulations for the prevention, abatement and control of air pollution. This regulation provides for the control of volatile organic compound emissions from new fabric, vinyl or paper surface coating operations.

Section 1. Definitions.

As used in this regulation, all terms not defined in this section shall have the meaning given to them in 401 KAR 50:010.

- (1) "Affected facility" means a coating line for fabric, vinyl or paper.
- (2) "Applicator" means the mechanism or device used to apply the coating including, but not limited to, roll, knife, or rotogravure coater.
- (3) "Flashoff area" means the space between the applicator and the oven.
- (4) "Coating line" means a series of equipment or operations used to apply, dry, or cure any coatings containing volatile organic compounds VOCs. This shall include, but is not limited to:
 - (a) Mixing operations;
 - (b) Process storage;
 - (c) Applicators;
 - (d) Drying operations including, but not limited to, flashoff area evaporation, oven drying, baking, curing, and polymerization;
 - (e) Clean up operations;
 - (f) Leaks, spills, and disposal of VOCs;
 - (g) Processing and handling of recovered VOCs;
 - (h) To determine compliance with this regulation, if any equipment or operation is considered to be a part of more than one (1) coating line, its VOC emissions shall be assigned to each coating line of which it is a part proportionally to the throughput of VOCs it receives from or distributes to each coating line;
 - (i) If any portion of the series of equipment or operations qualifies for an exemption according to Section 6, then that portion shall be considered to be a separate coating line.
- (5) "Process storage" means mixing tanks, holding tanks, and other tanks, drums, or other containers which contain surface coatings, VOCs, or recovered VOCs; but does not mean storage tanks of petroleum liquids which are subject to 401 KAR 59:050, 401 KAR 59:052 or 401 KAR 61:050.
- (6) "Fabric coating" means the coating or saturation of a textile substrate to impart properties that are not initially present, such as strength, stability, water or acid repellancy, functionality, or appearance.
- (7) "Vinyl coating" means the coating of vinyl coated fabrics or vinyl

sheets which includes decorative, functional, or protective topcoats or printing.

- (8) "Paper coating" means saturation or the application of a uniform layer of material across the entire width of a web of paper, pressure sensitive tapes regardless of substrate, related web coating processes on plastic film such as typewriter ribbons, photographic film, magnetic tape, functional films and decorative coatings on metal foil such as gift wrap and packaging, but does not include the printing of paper.
- (9) "Knife coating" means the application of a coating material to a substrate by means of drawing the substrate beneath a knife that spreads the coating evenly over the full width of the substrate.
- (10) "Roll coating" means the application of a coating material to a substrate by means of hard rubber or steel rolls.
- (11) "Rotogravure coating" means the application of a coating material to a substrate by means of a roll coating technique in which the pattern to be applied is etched on the coating roll. The coating material is picked up in these regulations recessed areas and is transferred to the substrate.
- (12) "Classification date" means the effective date of this regulation.
- (13) "VOCs net input" means the total input of VOCs input to the affected facility minus the amount of VOCs that are not emitted into the atmosphere. VOCs that are prevented from being emitted to the atmosphere by the use of control devices shall not be subtracted from the total for the purposes of determining VOCs net input. If the nature of any operation or design of equipment permits more than one (1) interpretation of this definition, the interpretation that results in the minimum value for allowable emission shall apply.
- (14) "Printing" means the formation of words, designs and pictures, usually by a series of application rolls each with only partial coverage. It shall apply to flexographic and rotogravure processes as applied to publication and packaging printing as defined in 401 KAR 59:212.

Section 2. Applicability.

- (1) This regulation shall apply to:
 - (a) Each affected facility commenced on or after the classification date defined in Section 1 of this regulation and located in a county or portion of a county designated as non attainment for ozone in 401 KAR 51:010, for any classification except marginal; and
 - (b) Each affected facility commenced on or after the effective date of this regulation which is part of a major source located in a county or portion of a county designated attainment or marginal nonattainment for ozone in 401 KAR 51:010.
- (2) Each affected facility commenced on or after the classification date defined in Section 1 of this regulation but prior to the effective date of this regulation which is part of a major source located in a county or portion of a county designated attainment or marginally nonattainment for ozone in 401 KAR 51:010 shall be exempt from this regulation except that control devices and procedures required at the time it commenced shall continue to be operated and maintained.

Section 3. Standard for VOCs.

No person shall cause, allow, or permit an affected facility to discharge into the atmosphere more than fifteen (15) percent by weight of the VOCs net input

into the affected facility.

Section 4. Compliance.

- (1) In all cases the design of any control system shall be subject to approval by the department.
- (2) Compliance with the standard in Section 3 shall be demonstrated by a material balance unless the department determines that a material balance is not possible. If a material balance is not possible, compliance shall be determined based upon an engineering analysis by the department of the control system design, control device efficiency, control system capture efficiency, and any other factor that may influence the performance of the system. If requested by the department, performance tests specified by the department shall be conducted to determine the efficiency of the control device. Capture efficiency shall be determined by procedures specified in 401 KAR 50:047 in all ozone nonattainment areas except marginal.
- (3) With the prior approval of the department, the owner or operator may elect to effect all changes necessary to qualify for an exemption under Section 6.
- (4) If deemed necessary by the department, the department shall obtain samples of the coatings used at an affected facility to verify that the coatings meet the requirements in Section 6. Method 24, which has been incorporated by reference in 401 KAR 50:015, shall be used as applicable to determine compliance of the coatings unless the department determines that other methods would be more appropriate. Case-by-case alternatives approved by the cabinet, but not previously authorized by the U.S. EPA shall be submitted to the U.S. EPA as a SIP revision.
- (5) Compliance on one (1) coating line with VOC emission limits shall be based on an averaging period not to exceed twenty-four (24) hours. If it is not economically or technically feasible to determine emissions on a daily basis, alternatives expressing emission limits for longer averaging times may be accepted if approved by the cabinet. Case-by-case alternatives approved by the cabinet, but not previously authorized by the U.S. EPA, shall be submitted to the U.S. EPA as a SIP revision.
- (6) The amount of exempt solvents shall be subtracted from the amount of coatings, just like water, with the ultimate value of interest being the mass of VOC per unit volume of coating less exempt solvent or water or both.
- (7) Calculations to determine equivalency on one (1) coating line shall be based on mass of VOC per volume of solids. Vinyl plastisols and organosols shall not be included in VOC equivalency calculations that are required to be included in applications for VOC bubbles.
- (8) Daily records shall be maintained by the source for the most recent two (2) year period. The record shall be made available to the cabinet or the U.S. EPA upon request. The records shall include, but not limited to, the following:
 - (a) Applicable regulation number;
 - (b) Application method and substrate type;
 - (c) Amount and type of adhesive, coating (including catalyst and reducer for multicomponent coatings), or solvent used at each point of application, including exempt compounds;
 - (d) The VOC content as applied in each adhesive, coating, or solvent;
 - (e) The date for each application for adhesive, coating, or solvent;
 - (f) The amount of surface preparation, clean-up, or wash-up solvent (including exempt compounds) used and the VOC content of each; and

- (g) Oven temperature, if applicable.

Section 5. Compliance Timetable.

- (1) Affected facilities which were subject to this regulation as in effect on June 29, 1979, shall have achieved final compliance upon startup.
- (2) The owner or operator of an affected facility that, on or after the effective date of this regulation, becomes subject to this regulation for any reason other than construction, modification, or reconstruction shall be required to complete the following:
 - (a) A final control plan for achieving compliance with this regulation shall be submitted no later than nine (9) months after the date the affected facility becomes subject to this regulation.
 - (b) The control system contract or the exempt coatings and any accompanying process change contracts shall be awarded no later than eleven (11) months after the date the affected facility becomes subject to this regulation.
 - (c) On-site construction or installation of emission control equipment or process changes for exempt coatings shall be initiated no later than thirteen (13) months after the date the affected facility becomes subject to this regulation.
 - (d) On-site construction or installation of emission control equipment or process changes for exempt coatings shall be completed no later than seventeen (17) months after the date the affected facility becomes subject to this regulation.
 - (e) Final compliance shall be achieved no later than eighteen (18) months after the date the affected facility becomes subject to this regulation.
 - (f) If an affected facility becomes subject to this regulation because it is located in a county previously designated nonurban nonattainment or redesignated in 401 KAR 51:010 after November 15, 1990, final compliance may be extended to May 31, 1995, and the schedule in paragraphs (a) through (d) of this subsection adjusted by the cabinet.

Section 6. Exemptions.

- (1) Any affected facility coating fabric or paper shall be exempt from the provisions of Section 3 if the volatile organic compounds content of the coating is less than 0.35 kg/l of coating (2.9 lb/gal), excluding water or exempt solvent or both, delivered to the applicators associated with the coating line.
- (2) Any affected facility coating vinyl shall be exempt from Section 3 if the VOC content of the coating is less than 0.45 kg/l of coating (3.8 lb/gal), excluding water or exempt solvent or both, delivered to the applicators associated with the coating line.
- (3) An owner or operator electing to qualify for an exemption under this section shall have achieved final compliance for that affected facility by December 1, 1981.
- (4) An affected facility shall be exempt from this regulation if the total VOC emissions from all affected facilities subject to this regulation are less than or equal to:
 - (a) Three (3) lb/hr actual emissions before add-on control;
 - (b) Fifteen (15) lb/day actual emissions before add-on control; or
 - (c) Ten (10) tons per year theoretical potential emissions based on design capacity (maximum production) and 8760hr/year before add-on control.
- (5) Low-use coatings shall be exempt from Section 3 of this regulation if

the plantwide consumption of these coatings inthe aggregate is less than or equal to fifty-five (55) gallons during the previous twelve (12) months.

Effective date: June 29, 1979

	Date Submitted to EPA	Date Approved by EPA	Federal Register
Original Reg	JUN 29, 1979	JAN 25, 1980	45 FR 6092
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